Some Fermi Questions

In a Fermi question, the goal is to get a reasonable idea of the answer quickly, by making some reasonable assumptions about the situation. You will not have the absolute knowledge to get an "exact" answer.

1) Can you live to be a million seconds old? A million hours old? A million days old?

2) Could you put $1 000 000 worth of $1 coins in a pile under your desk? What about a billion dollars' worth of $2 coins?

3) How many people could you cram into the classroom? How many balloons? How many ping-pong balls?

4) How many maths lessons are taking place in Australia today?

5) How much money is spent in the school canteen each day?

6) If all the people in the world joined hands and stretched themselves out in a straight line, how long would it reach? Could you go around the world?

7) How many hairs are there on your arm?

8) Ignoring oceans and such, how long would it take to walk entirely around the world?

9) How much water per year flows in the Yarra under the Princes Bridge?

10) How many semi-trailer loads would it take to move Mt. Kosciusko? How long would it take?

11) If I had a billion drops of water, how much water is that? Would it cover the MCG? How deeply?

12) How fast is the earth travelling as it orbits the sun?

13) How big is a 1:1 000 000 scale map of Australia?

14) If all the people in the world moved to Victoria, how crowded would it be?

15) How long would it take you to drink all the water in an Olympic pool?

16) How many grains of rice are in a 10 kg bag?

17) How many people do you know? How many people do they know?

18) How high are a million kids standing on each other's shoulders?

19) How large a bowl would you need to hold a million goldfish?

20) How many pages would be needed to show a million stars?
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21) How long would it take to count to a million?

22) How many grains of sand are there on St Kilda beach?

23) How many Ford Falcons are equal in mass to the mass of the water in an Olympic-sized swimming pool?

24) How many jelly beans fill a one-litre jar? What about a bucket?

25) What is the mass in kilograms of the student population of your school?

26) How many litres of petrol are used by cars each year in Australia?

27) What is the weight of solid garbage thrown away by Australian families every year?

28) How many individual frames of film are needed for a feature-length film?

29) How many hot dogs or meat pies will be eaten at AFL games during a one year season?

30) How many revolutions will a wheel on the bus make during a trip from Sydney to Melbourne?

31) How many pizzas will be ordered in Victoria this year?

32) If you had a stack of $2 coins as tall as Mt Kosciusko, what would it be worth? Could you fit it in your bedroom?

33) How far do you walk in an average week?

34) How much water does your household use each week? Can you answer this without using a water bill?

35) How many maths lessons will you have in a lifetime?

36) Spend exactly $1 000 000 using things for sale in the newspaper

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Some useful information:

Radius of the earth: about 6400 km
Distance of the earth from the sun: about 150 million km
Distance of the moon from the earth: about 380 000 km
Population of the world: about 6 billion
Population of Australia: about 20 million
Population of Melbourne: about 3.5 million
Area of Tasmania: about 68 000 square km
Area of Victoria: about 228 000 square km
Area of Australia: about 7 700 000 sq. km
Height of Mt Kosciusko: 2230m

Pose your own question ...